



Metallurgist

Who we are.

Our planet cares for us. It gives us water, food, and shelter, and in return we need to care for it. As we work to build a carbon-free economy to protect our planet, we're at a crossroads. The very technologies that will save us—electric vehicles, wind turbines, and processing power—are built on a foundation of rare metals extracted from the earth at great monetary and environmental cost. How can we shift to a carbon-free existence without doing more harm than good?

At Nth Cycle, we see this challenge as opportunity. An opportunity to draw the resources needed for the energy transition from electronics waste and more efficient mines. A chance to make recovery processes more sustainable while improving profits at the same time. We've put our minds and hearts into solving this problem. We've developed new technology that supports scrap recyclers and miners. It's called electro-extraction, an alternative to hydrometallurgy and pyrometallurgy. Rather than using large, greenhouse gas-emitting furnaces or harsh chemicals, our technology uses only electricity.

In transforming our lives and economies, the technologies we harness must be as clean and sustainable as the world we imagine. At Nth Cycle, we've created the tools to make that future possible today.

Position description.

Nth Cycle has an immediate need for a Metallurgist to join and lead the technical roll out of our innovative electro-extraction solution in the mining and metals industry. As Nth Cycle continues its rapid development, the company is looking for a high energy, self-starter to support the technological delivery of Nth Cycle's best in class solution. This role requires a confident and innovative professional, a good listener, aggressive in discovering novel solutions to classical metallurgic problems, focused on meeting the customer's technical specifications, and able to work well on a team within a rapidly growing business. Proven success navigating complex flowsheets and identifying potential plug-and-play opportunities for the Nth Cycle technology will be the key to consulting with our potential partners and generating proposals to meet their unique metals and material upgrade needs. We are looking for a sharp, hungry individual who is committed to truly redefining the way we refine critical minerals for the energy transition.

This role will report to the VP of Engineering. They will work with the research, development, and engineering teams to deliver metallurgic solutions in areas such as: selective leaching procedures for new metal feedstocks, selective precipitation processes for complex metal solutions, and development of test parameters to validate new materials, and characterize metal products. This role will mostly be hands-on laboratory efforts, but success will likely require interfacing virtually and in-person with customers and partners.

Key responsibilities and accountabilities.

- Creating and maintaining an active feedstock database to compile methods and build knowledge base
- Develop procedures to characterize incoming feedstocks and determine pre-processing needs
- Develop and execute procedures to digest new feedstocks for specific application metrics
- Collaborate with the technical team to scale pre-processing methods for improved performance
- Develop advanced hydrometallurgic methods that utilize electroextraction as a novel replacement for classical hydrometallurgical techniques such as acid digestion and chemical precipitation



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- Communicate technical results and challenges across the organization to advance product development
- Preparing and presenting metallurgic flowsheets
- Identifying potential electroextraction plug-and-play sites in pre-existing metallurgic flow sheets
- Characterization of metal and metal hydroxide products

Qualifications and experience.

Qualified candidates will possess a strong combination of the following:

- Minimum 5 years professional or academic experience in the metallurgy, mining engineering, geological engineering, or a related field with an experimental focus.
- Ability to work hands-on in lab individually and as a team.
- Demonstrated aptitude in aqueous & solid metal analyses such as AA, ICP-MS, UV-vis, XRD, XRF, XPS, EDS, SEM, etc.
- Extensive experience with Microsoft Excel and other spreadsheet and modeling tools such as Matlab, Python, Comsol, etc. for quantitative data analysis and geochemical simulations.
- Strong written and oral communication skills.
- Ability, enthusiasm, and flexibility to perform in a fast-paced environment.
- Thorough technical understanding of metal dissolution-precipitation equilibrium, kinetics, and mechanisms to allow for rapid theoretical qualitative feedstock analysis and in-depth quantitative analysis.

Nth Cycle does not discriminate in employment on the basis of race, color, religion, sex (including pregnancy and gender identity), national origin, political affiliation, sexual orientation, marital status, disability, genetic information, age, membership in an employee organization, retaliation, parental status, military service, or other non-merit factor.

We value diversity.

We believe in the power of people to power our future and are building a diverse, people-first culture to transform metals processing.

Everyone is welcome at Nth Cycle. Consistent with our commitment to diversity & inclusion, we value individuals with the ability to work on diverse teams and with a diverse range of people. We know from experience that diverse teams are more successful, and we're working on being very successful. No matter your background, consider picking up an oar and helping us row.

Come help us build a billion-dollar company and redefine the critical minerals supply chain.